

Reply to Office Action dated October 12, 2007

REMARKS

Claims 1-3, 5-23 and 25-30 are pending in this application. By this Amendment, claims 1, 5, 8, 9, 11, 18-19, 21, 25 and 28-29 are amended. Various amendments are made for clarity and are unrelated to issues of patentability.

Entry of the amendments is proper under 37 C.F.R. §1.116 because the amendments: (1) place the application in condition for allowance; (2) do not raise any new issues requiring further search and/or consideration; and/or (3) place the application in better form for appeal, should an appeal be necessary. More specifically, features of dependent claims 8-9 are incorporated into independent claim 1, features of dependent claims 18-19 are incorporated into independent claim 11 and features of dependent claims 28-29 are incorporated into independent claim 21. No further issues are raised since these features have been previously claimed, searched and examined. Entry is thus proper under 37 C.F.R. §1.116.

The Office Action rejects claims 1-3, 5-6, 10-16, 20-23, 25-26 and 30 under 35 U.S.C. §102(e) by U.S. Patent 7,158,173 to Lee et al. (hereafter Lee). The Office Action also rejects claims 7, 17 and 27 under 35 U.S.C. §103(a) over Lee in view of U.S. Patent 6,597,339 to Ogawa. Still further, the Office Action rejects claims 8-9, 18-19 and 28-29 under 35 U.S.C. §103(a) over Lee in view of newly-cited U.S. Patent 4,352,105 to Harney. The rejections are respectfully traversed with respect to the pending claims.

Independent claim 1 recites a controller which controls the terminal to sense an illumination intensity of a photographed object around the terminal, the photographed object comprising a digital image having a plurality of pixels, the controller to determine a level of the

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illumination intensity from a data table based on a most frequently detected brightness value of the pixels in the digital image. Independent claim 1 also recites a display unit which controls the screen brightness value of the terminal based on the level of illumination intensity determined from the data table by the controller using the most frequently detected brightness value.

The applied references do not teach or suggest at least these features of independent claim 1. More specifically, Lee does not teach or suggest “based on a most frequently detected brightness value of the pixels.” In discussing this feature, the Office Action (on pages 2 and 8) references Lee’s FIG. 4, steps 406 and 414, FIG. 9A (showing a histogram) and FIG. 8. However, these features do not teach or suggest based on a most frequently detected brightness value of the pixels. For example, steps 406 and 414 (FIG. 4) relate to calculating a luminous average of an edge region. A luminous average does not teach or suggest based on a most frequently detected brightness value. Stated differently, calculating an average does not inherently teach or suggest based on a most frequently detected brightness value of the pixels. Even further, an average does not inherently teach or suggest a most frequent value. Should the Patent Office maintain this rejection, then the Patent Office is requested to show how a calculated luminance average (step 406) teaches a most frequently detected brightness value.

The Office Action also appears to reference a histogram in Lee’s step 502 (FIG. 8) and FIG. 9. However, as is specifically described in detail in Lee’s col. 10, lines 20-35, specific brightnesses are controlled by adding or subtracting a previously-set control value to-or-from brightness contrast stretched pixel values based on whether a bright state or a dark state is determined. See, for example, FIGs. 9B and 9C. The graph of FIG. 9A moves either to the left

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or to the right in order to obtain the graphs of FIG. 9B or 9C. This clearly does not teach or suggest to determine a level of illumination intensity from a data table based on a most frequently detected brightness value of the pixels in the digital image. Furthermore, when discussing features of the data table recited in dependent claims 8 and 9, the Office Action (on page 5) references Harney's Table 1 (in col. 1). However, Table 1 shows specific colors that may be displayed based on a picture element intensity I and range. There is no suggestion of how Harney's color mapping may be combined with Lee's FIG. 9A disclosure relating to adding or subtracting a previously-set control value. Lee expressly describes adding or subtracting a control value to-or-from brightness contrast pixel values in order to move the graph. There is no suggestion of how Lee may operate in accordance with Harney's Table 1 (that shows specific colors that may be displayed).

The Office Action (on page 5) states that it would be obvious to use range/intensity mapping in Harney's display controller because range mapping or look-up table simplifies control. However, the alleged modification would destroy the express features of Lee relating to adding/subtracting a previously-set control value to obtain the graphs of FIG. 9. The alleged modification is improper and does not teach or suggest all the features of independent claim 1.

Lee and Harney do not teach or suggest a controller to determine a level of the illumination intensity from a data table based on a most frequently detected brightness value of the pixels in the digital image and a display unit which controls the screen brightness value of the terminal based on the level of illumination intensity determined from the data table by the controller using the most frequently detected brightness value. Lee does not teach to determine

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from a data table using a most frequently detected brightness value. Furthermore, Harney does not teach or suggest to determine from a data table using a most frequently detected brightness value. Accordingly, Lee and Harney do not teach or suggest all the features of independent claim 1.

Ogawa does not teach or suggest the features of independent claim 1 missing from Lee and Harney. Thus, independent claim 1 defines patentable subject matter.

Independent claim 11 recites controlling the terminal to sense an illumination intensity of a digital image having a plurality of pixels and to determine a level of the illumination intensity, from a data table storing information related to different illumination intensity levels, based on a most frequently detected brightness value of the pixels, and controlling the screen brightness value of the terminal based on the determined level of the illumination intensity.

For at least similar reasons as set forth above, the applied references do not teach or suggest at least these features of independent claim 11. The applied references also do not teach or suggest a data table storing information related to different illumination intensity levels. Thus, independent claim 11 defines patentable subject matter.

Independent claim 21 recites a first computer code to determine a level of the illumination intensity from a data table based on a most frequently detected brightness value of the pixels in the digital image, and a second computer code which controls the screen brightness value of the terminal based on the level of illumination intensity determined from the data table by the first computer code using the most frequently detected brightness value.

For at least similar reasons as set forth above, the applied references do not teach or suggest at least these features of independent claim 21. Thus, independent claim 21 defines patentable subject matter.

Accordingly, each of independent claims 1, 11 and 21 defines patentable subject matter. Each of the dependent claims depends from one of the independent claims and therefore defines patentable subject matter at least for this reason. In addition, the dependent claims recite features that further and independently distinguish over the applied references.

For example, dependent claim 8 recites the data table including a first range of brightness peak values and a second range of brightness peak values different than the first range of brightness peak values, the data table further including a first illumination intensity value corresponding to the first range of brightness peak values and a second illumination intensity value corresponding to the second range of brightness peak values. Dependent claim 9 further recites that the controller reads the first illumination intensity value from the data table based on the most frequently detected brightness value, and the display unit controls the screen brightness value of the terminal based on the first illumination intensity value read from the data table. See also dependent claims 18-19 and 28-29.

Harney does not teach or suggest these features as alleged in the Office Action. Furthermore, the applied references do not teach or suggest a controller that reads the first illumination intensity value from the data table based on the most frequently detected brightness value. Thus, dependent claims 8-9, 18-19 and 28-29 define patentable subject matter at least for these additional reasons.

Serial No. **10/815,837**

Docket No. **P-0664**

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CONCLUSION

In view of the foregoing, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and prompt allowance of claims 1-3, 5-23 and 25-30 are earnestly solicited. If the Examiner believes that any additional changes would place the application in better condition for allowance, the Examiner is invited to contact the undersigned attorney at the telephone number listed below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
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Date: January 17, 2008

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